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UNITED STATES DEPARTMENT OF AGRICULTURE

Extension Service
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A Summary of the Exhibit

CRUSHED ROCK AND GRAVEL SURFACING

This exhibit illustrated methods of constructing stone and gravel roads and the character and amount of traffic for which this relatively cheap type of road surface is suitable.

Specifications.

Floor space required - width -----13 feet.
depth ----- 8 feet.
Wall Space required -----None.
Shipping weight -----523 lbs.
Electrical requirements -----None.

CRUSHED ROCK AND GRAVEL SURFACING

How It Looks.

This pictorial exhibit is liberally supplied with text explaining the painted scenes of western roads and road construction.

The middle section contains a pleasing scene of a winding road passing in front of a very large road sign telling about road materials. A large imitation magnifying glass shows the construction of a portion of the road which has apparently been cut away.

The painted scenes and text on the side sections of the booth deal with interesting facts on road materials and road construction, etc.

What It Tells.

For light-traffic roads crushed rock or gravel surfacing is both cheap and adequate. The crushed rock or crushed gravel is laid in two courses of small-sized stones, and a blanket of fine material is allowed to remain loose on the surface. The road can be maintained easily under motor traffic by blading this blanket back into position when it becomes displaced.

This type of surfacing differs from the macadam system of three courses of rock, with size increasing from the base to the top, principally, in the provision of the blanket course of fine material to overcome the suction and disrupting action of rubber-tired traffic. This is explained on the center panel of the booth and a magnified cross section of the surfacing shows how the various sizes of stone are locked together.

The left panel explains that the best materials are crushed gravel, from pits in which the natural gravel

is found in a cemented condition, and crushed stone, from quarries with a moderate amount of soft rock for binder. The latter is generally more desirable than hard, clean basalt, which requires the addition of earth, or clay as a binder. Clay, or earth added to provide a binder when dry in August, may become a lubricant, when wet in January. Gravel naturally cemented in the pit, usually compacts into a better surfacing, than gravel which lies loose in the beds of streams with a large percentage of sand.

The right panel pictures the operations involved in the construction. In general, there are 6 steps.

1. Screening the crushed stone or gravel into two separate bins at the crushing plant.
2. Beginning the surfacing at the crusher plant, and compacting it by truck traffic.
3. Spreading the material in two courses, each about 4 inches thick. The maximum size in the base is 1 to $1\frac{1}{2}$ inches, and in the top $\frac{1}{2}$ to $\frac{3}{4}$ inch.
4. Filling the truck ruts during construction with a light drag. Heavy drags are not successful, they entirely fill the ruts and the trucks must plow new ones. This results in an excessive hauling cost, and a poorly compacted surface.
5. Sprinkling with water during construction makes the best surface. Where this is not possible, dragging during the subsequent rainy season, should be practiced. A surface never becomes satisfactory until wetted by artificial or natural means.
6. Continuous maintenance is needed to blade a layer of fine material back and forth across the travelled surface.

Where to Get Information

Information may be obtained free of charge upon request to the Bureau of Public Roads, U. S. Department of Agriculture.